

IN THE CLAIMS

1-18. (Previously Canceled)

D3

19. (Currently Amended) An integrated circuit comprising:
a first device;
a second device;
a contact coupling the first device to the second device, wherein the contact includes a first barrier and a second barrier that are electrically conductive, the first barrier restricts electrode oxidation and the second barrier restricts atomic migration from or to a substrate, and a barrier structure encircling the contact and the first and second barriers.

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D4

20. (Original) The integrated circuit of claim 19, wherein the first device is a capacitor.

21. (Original) The integrated circuit of claim 19, wherein the second device is a transistor.

D5

22. (Currently Amended) An integrated circuit comprising:
a first device;
a second device;
[one or more] a first layer[s] coupling the first device to the second device[, at least one of the one or more layers is] capable of blocking oxygen atom migration; [and]
a second layer coupling the first device to the second device capable of blocking substrate atom migration; and
a structure encircling the one or more layers, and the one or more layers are electrically conductive.

23. (Original) The integrated circuit of claim 22, wherein the first device is a capacitor.

D6

24. (Original) The integrated circuit device of claim 22, wherein the second device is a MOSFET.

25. (Currently Amended) An integrated circuit comprising:

a first device;

a second device;

D7 [one or more] a first layer[s] coupling the first device to the second device[, at least one of the one or more layers is] capable of blocking silicon atom diffusion; [and]

a second layer coupling the first device to the second device capable of blocking oxygen atom migration; and

a structure encircling at least two of the one or more layers, and at least two of the one or more layers are electrically conductive.

26. (Currently Amended) The integrated circuit of claim 25, wherein the [one or more layers is] the first and second layers and the structure cooperate as three layers.

D8 27. (Original) The integrated circuit of claim 25, wherein the structure is fabricated from an oxide.

28. (Currently Amended) An integrated circuit comprising:

a first device;

a second device;

D9 a multilayer contact including ruthenium silicide used as an oxygen barrier and an atomic substrate migration barrier, the multilayer contact coupling the first device to the second device; and

an oxide ring encircling the ruthenium silicide and the atomic substrate migration barrier, wherein the ruthenium silicide and the atomic substrate migration barrier are electrically conductive.

29. (Currently Amended) The integrated circuit of claim 28, wherein the [multilayer contact] atomic substrate migration barrier includes a polysilicon layer.

D10 30. (Original) The integrated circuit of claim 29, wherein the polysilicon layer is separated from the oxide ring by an air gap.

D11 31. (Currently Amended) An integrated circuit comprising:
a first device;
a second device;
one or more layers coupling the first device to the second device, at least one of the one or more layers is capable of blocking oxygen atom migration and at least one of the one or more layers is capable of restricting atomic substrate migration; and
an oxide ring structure encircling at least two of the one or more layers, which are electrically conductive.

D12 32. (Original) The integrated circuit of claim 31, wherein at least one of the one or more layers is fabricated from a tungsten nitride.

33. (Original) The integrated circuit of claim 32, wherein the oxide ring structure is in contact with the tungsten nitride.

D13 34. (Currently Amended) An integrated circuit comprising:
a first device;
a second device;
one or more layers electrically coupling the first device to the second device, at least one of the one or more layers is capable of blocking the diffusion of silicon and at least one of the one or more layers is capable of restricting oxygen atom migration; and
an oxide ring structure encircling at least one of the one or more layers, which is electrically conductive.

D14 35. (Original) The integrated circuit of claim 34, wherein at least one of the one or more layers is ruthenium silicide.

36. (Original) The integrated circuit of claim 34, wherein the second device is an active device.

37-93. (Previously Canceled)

94. (Currently Amended) An integrated circuit comprising:

a first device;

a second device;

D15 a contact coupling the first device to the second device, the contact coupling including a first barrier for restricting oxygen migration and a second barrier for restricting substrate atom migration; and

a barrier structure of silicon nitride encircling the contact and the first and second barriers, which are electrically conductive.

D16 95. (Previously Added) The integrated circuit of claim 94, wherein the first device is a capacitor.

96. (Previously Added) The integrated circuit of claim 94, wherein the second device is a transistor.

97. (Currently Amended) An integrated circuit comprising:

a first device;

a second device;

D17 one or more layers coupling the first device to the second device, at least one of the one or more layers including platinum-iridium, which restricts oxygen atom migration, and at least one of the one or more layers restricting substrate atom migration; and

a structure encircling the one or more layers, where the one or more layers are electrically conductive.

D18 98. (Previously Added) The integrated circuit of claim 97, wherein one of the one or more layers comprises a layer of tungsten nitride having a thickness of between about 900 angstroms and 1100 angstroms.

128 99. (Previously Added) The integrated circuit device of claim 97, wherein the second device is a bipolar transistor.

119 100. (Currently Amended) An integrated circuit comprising:
a first device;
a second device;
one or more layers coupling the first device to the second device, at least one of the one or more layers including platinum-rhodium, which restricts oxygen atom migration, and at least one of the one or more layers restricting substrate atom migration; and
a structure encircling at least two of the one or more layers, which are electrically conductive.

120 101. (Previously Added) The integrated circuit of claim 100, wherein the one or more layers includes a polysilicon layer.

102. (Previously Added) The integrated circuit of claim 100, wherein the first device is formed in a substrate, the substrate selected from a group consisting of silicon, germanium, gallium-arsenide, and silicon-on-sapphire.
